FIVE YEARS AND 10 TONS LATER: LESSONS FROM A LARGE SCALE FOOD SUPPLEMENTATION EXPERIMENT AT A KITTIWAKE COLONY

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Since 1996 we have provided herring and capelin to Black-legged Kittiwakes (*Rissa tridactyla*) nesting on an abandoned radar tower on Middleton Island, Gulf of Alaska. We present some of the trends observed over the last 5 years of the study. From 1996-1998 we offered supplemental fish en masse at each nest site. However, by 1998 "stealing" by non-site holders reached epidemic proportions and threatened the integrity of the study. So in 1999 we began hand-feeding individuals. This allowed us to tabulate the exact amount of fish consumed by males, females and chicks at specific sites. We discovered that during egg development female intake was half that of males, suggesting that females may be meeting their nutritional needs via courtship feeding – lending weight to the argument this behavior serves as a pair bonding mechanism. Throughout the remainder of the season males and females ate equal amounts of food. Overall, consumption was highest prior to laying. Our data indicate adults continue to forage naturally even if they are provided all the food they need at the nest site. A strong, negative correlation between the quantity of food consumed and fledging success in unfed pairs suggests fed birds rely on supplementation the most when natural foraging conditions are poor. Although our supplementation study indicated that food is primarily limiting the productivity of North Pacific kittiwakes, predation and social facilitation play a role. We found a gradient of reproductive success depending on whether pairs have access to supplemental food, breed in a thriving colony, nest in gull vulnerable habitat, or a combination of these factors.